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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,858	09/19/2001	Yujin Arai	01589/LH	9888

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EXAMINER

SAKELARIS, SALLY A

ART UNIT PAPER NUMBER

1634

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/955,858	ARAI, YUJIN	
	<b>Examiner</b>	<b>Art Unit</b>	
	Sally A Sakelaris	1634	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 1-9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                      | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                             | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>12002</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgement of claim to foreign priority of Japanese Application, 287618, filed 9/21/2000 under 35 U.S.C. 119(a)-(d) has been made, however applicant should note that the translation of this foreign priority document has not yet been received and as a result the priority document cannot be relied upon to overcome the cited prior art.

### ***Information Disclosure Statement***

2. The English language translations of the abstracts of the documents listed on the 1449 received 12 January 2002 have been reviewed and considered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-4 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Rava et al.(US Patent 5,874,219 issued 23 February 1999).

Regarding claim 1, Rava et al. disclose a method of image data acquisition comprising scanning a sample by a light; receiving a light from the sample, to acquire a scanned image data; and storing the scanned image data obtained by scanning a region(defined in specification as

“strip”) of a predetermined size every time a region scanned by the light reaches a predetermined size(ie. a “strip”), sequentially(Column 5 lines 45-56, Column 6 lines 40-53).

Regarding claim 2, Rava et al. disclose the image data acquisition method of claim 1 wherein, the size of the scanned region by the light is changed according to an arrangement position thereof, when a plurality of measurement objects are arranged in the sample(Claims 16(b) and Claim 34(b)). Rava et al. teach in the cited claims that the size of the scanned region is changed through “the means for focusing the excitation light to a point on a substrate”(Clm 34) and further by using the “optics for directing an excitation light”(Clm 16).

Regarding claim 3, Rava et al. disclose the image acquisition method according to claim 2, wherein position information on respective scanning regions is stored to be added to each item of the scanned image data sequentially stored(Column 6 lines 49-53).

Regarding claim 4, Rava et al. disclose the image data acquisition method according to claim 2, wherein the sample is a DNA microarray in which a number of spots are arranged as a measurement object, and the size of the scanning region(strip) is such that a boundary in the scanning region is not overlapped on the spot(Column 6 lines 49-50, Column 12 lines 1-9). In referencing the specification on page 18, it appears that “boundary” is meant to define the outer edges of the region(strip) and as a result this claim’s embodiment is taught in Rava et al.’s teaching that in their method, “a strip has been scanned”(Col. 6). Applicant should note that since only a strip has been scanned, a boundary in the scanning region is not overlapped on the spot as the boundary is understood to exist outside the spots and in this example each strip(region including spots) is scanned; not a strip and a spot, or not spots overlapping the strip boundary.

Regarding claim 6, Rava et al. teach the data acquisition method of claim 1 wherein an analysis processing is executed for the stored scanned image data in parallel with scanning of a next region(strip) when the storage of the scanned image data completes(Column 6 lines 40-53). In column 6 the reference teaches that “once a strip has been scanned, the data representing the 1-dimensional image are stored in the memory of the computer” and further that “simultaneously scanning or imaging a strip of the sample” occurs in order to “continuously integrate and process data”(Col. 6, lines 40-53).

Regarding claim 7, Rava et al. teach the data acquisition method of claims 1 and 6 wherein the size of the scanning region is such that a boundary in the scanning region is not overlapped on the spot. In referencing the specification on page 18, it appears that “boundary” is meant to define the outer edges of the region(strip) and as a result this claim’s embodiment is taught in Rava et al.’s teaching that in their method, “a strip has been scanned”(Col. 6). Applicant should note that since only a strip has been scanned, a boundary in the scanning region is not overlapped on the spot as the boundary is understood to exist outside the spots and in this example each strip(region including spots) is scanned; not a strip and a spot, or not spots overlapping the strip boundary.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rava et al.(US Patent 5,874,219 issued 23 February 1999) in view of Kimura et al.(US Patent 6,458,601 B1 issued 1 October 2002) and in further view of Webster Dictionary.

Regarding claims 5, 8, and 9 Rava et al. disclose a method of image data acquisition comprising scanning a sample by a light; receiving a light from the sample, to acquire a scanned image data; and storing the scanned image data obtained by scanning a region(defined in specification as “strip”) of a predetermined size every time a region scanned by the light reaches a predetermined size(ie. strip), sequentially(Column 5 lines 45-56, Column 6 lines 40-53). Rava et al. also disclose the image data acquisition method of above wherein, the size of the scanned region by the light is changed according to an arrangement position thereof, when a plurality of measurement objects are arranged in the sample(Claims 16(b) and Claim 34(b)). Rava et al. teach in the cited claims that the size of the scanned region is changed through “the means for focusing the excitation light to a point on a substrate”(Clm 34) and further by using the “optics for directing an excitation light”(Clm 16). Rava et al. also teaches “moving the device[sample] at a constant velocity to continuously integrate and process data”(Col. 6 lines 52-53). Lastly, Rava et al. teach that the main scanning is carried out by an optical scanner(Column 6, lines 40-49). Rava et al. do not teach the above methods of claims 5, 8, and 9 wherein the scanning light is carried out by main scanning and sub-scanning in a direction orthogonal thereto. However, the scanning of a DNA microarray chip wherein the scanning light is carried out by main scanning and sub-scanning in a direction orthogonal thereto(where orthogonal is defined as Webster to be “intersecting or lying at right angles”) was well known in the art at the time the claimed invention was made as taught by Kimura et al.(Column 4, lines 45-55) who

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teach a similar data acquisition method wherein a sub-scanning system works in a direction perpendicular to that of the main scanning system. It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the main and sub-scanner scanning approach of Kimura et al. to the data acquisition method of Rava et al. for the expected benefit that "in the microarray technique, it is necessary to precisely two-dimensionally scan the microarray chip coated with cDNAs at a high density"(Kimura, Col.1) and therefore for the known success of scanning a DNA microarray for the obvious benefits of obtaining such expected results.

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Sally Sakelaris whose telephone number is (703) 306-0284. The examiner can normally be reached on Monday-Thursday from 7:30AM-5:00PM and Friday from 1:00PM-5:00PM.

If attempts to reach the examiner are unsuccessful, the primary examiner in charge of the prosecution of this case, BJ Forman, can be reached at (703)306-5878. If attempts to reach the examiners are unsuccessful, the examiner's supervisor, Gary Benzion, can be reached on (703)308-1119. The fax number for the Technology Center is (703)305-3014 or (703)305-4242.

Any inquiry of a general nature or relating to the status of this application should be directed to Chantae Dessau whose telephone number is (703)605-1237.

Sally Sakelaris



8/19/2003



**BJ FORMAN, PH.D.  
PRIMARY EXAMINER**